



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,417	06/20/2002	Kim Rishoj Pedersen	GRP-0010	1154
23413	7590	06/17/2005	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			GRIER, LAURA A	
			ART UNIT	PAPER NUMBER
			2644	
DATE MAILED: 06/17/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,417

Applicant(s)

PEDERSEN ET AL.

Examiner

Laura A. Grier

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/8/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 11-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11-12 of copending Application No. 10049417. Although the conflicting claims are not identical, they are not patentably distinct from each other because is drawn to processing a plurality of input signals to created a specific processed audio signal.

Regarding claim 12, application no. 10049415 (herein, appn-415) discloses in claim 12, discloses method for processing audio signals, wherein the audio signal comprises M sub-signals, reads on the audio signal comprising M sub-signals.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11-12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 4731848.

Regarding claims 11-13 and 17, Kendall et al. (herein, Kendall) discloses a spatial reverberator (col. 4, lines 4-25, col. 5, lines 13-25, col. 20, lines 50-68, and col. 21, lines 1-7). Kendall's disclosure comprises an input signal, which reads on at least one input, a reverberator, wherein the reverberator creates N directional components are added to provide at least one signal having N directional components.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 4, 14-16, 18, 23-24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipate by kawakami, U. S. Patent No. 6157724.

Regarding claims 1, 14, 23-24 and 26, Kawakami discloses an apparatus for producing music and reflections (all figures). Kawakami disclosure comprises a plurality of microphone inputs spatially separated from each other for producing audio in an acoustic space (col. 2, lines 45- 67 and col. 4, lines 1-4, 40-67 – col. 5, lines 1-22,

cand col. 6, lines 19-32), which indicates N components (directional), and/or audio channels and being uncorrelated.

Regarding claim 2, Kawakami discloses everything claimed as applied above (see claim 1). Kawakami discloses at least microphone inputs (see figures 4-6a/b).

Regarding claim 4, Kawakami discloses everything claimed as applied above (see claim 1). Kawakami inherently discloses the directions as three-dimension directions as evident by the fact that the microphones are separated and sound is three-dimensional, itself.

Regarding claim 15, Kawakami discloses everything claimed as applied above (see claim 14). Kawakami discloses the audio signal is generated in a music room, wherein the microphone are positioned (col. 4, lines 61-65), which indicates a room processed signal.

Regarding claim 6, Kawakami discloses everything claimed as applied above (see claim 14). Kawakami discloses mixers for adding the reflections signals which are output via loudspeakers (col. 6, lines 19-32).

Regarding claim 18 and 20, Kawakami discloses an apparatus for producing music and reflections (all figures). Kawakami disclosure comprises a plurality of microphone inputs spatially separated from each other for producing audio in an acoustic space (col. 2, lines 66- col. 3, lines 45- 67 and col. 4, lines 1-4, 40-67 – col. 5, lines 1-22, and col. 6, lines 19-32), which indicates at least one input of receiving directional components, and transforming the input signal in an N output channels, wherein a processor (functioning in respect the parameters or program instruction

stored in the RAM/ROM of the apparatus) is used to implement particular sound effects, which indicates according to at least one rendering method stored in a storing means, specifically in col. 8, lines 48-67.

Regarding claim 19, Kawakami discloses everything claimed as applied above (see claim 18). Kawakami discloses control the gain of the signals, thus it inherent that the rendering method incorporates a gain matrix.

Regarding claim 21, Kawakami discloses everything claimed as applied above (see claim 18). Kawakami discloses inherently provides as least two predefined rendering method as evident by the fact that a plurality of tone parameters are stored in memory and program instructions are used to processed the respective audio signal inputs.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 22, 25, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami.

Regarding claims 3, 25, 28-29, Kawakami discloses everything claimed as applied above. (see claim 1 and 23, respectively). However, Kawakami fails to

specifically disclose the audio channels or N components being of the specifically claimed quantities. It is well known in the art to have an unlimited number of input channels and input sources in the range of 1 or more. Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kawakami by implement as many input channels or input sources to obtain the desired audio output.

Regarding claim 22, Kawakami discloses everything claimed as applied above (see claim 18). It is obvious the system functions to enable specific output channels and /or device for outputting a specifically processed signal.

Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami.

Regarding claims 5-10, Kawakami discloses everything claimed as applied above (see claim 1). However, Kawakami fails to claimed specifically disclose layout of the directions in respect to a reference plane. Kawakami indicates that position of the microphones/loudspeaker can be cyclic and interchangeable. Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kawakami by implement the directions of sound pickup from various directions as claimed as to obtain the desired audio performance and output for enhancing the given sound field.

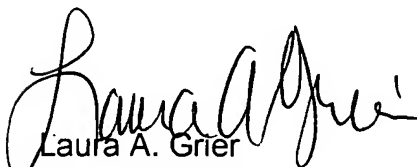
Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A. Grier whose telephone number is (571) 272-7518. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh N. Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Laura A. Grier
June 12, 2005